3.3.10 WASTE MANAGEMENT

This section outlines the major environmental regulatory structure and ongoing waste management activities for NTS. A more detailed discussion of the ongoing waste management operations is provided in Section E.2.2. Table 3.3.10–1 presents a summary of waste management activities at NTS for 1993.

The Department is working with Federal and State regulatory authorities to address compliance and cleanup obligations rising from its past operations at NTS. The Department is engaged in several activities to bring its operations into full regulatory compliance. These activities are set forth in negotiated agreements that contain schedules for achieving compliance with applicable requirements and financial penalties for nonachievement of agreed-upon milestones.

The Department has decided that underground testing areas should be governed pursuant to the provisions of CERCLA. Preliminary Assessment/Site Investigation Reports and a Hazardous Ranking System package were provided to the EPA for use in determining whether or not NTS should be included on the NPL. In May 1993, the State of Nevada issued a letter to DOE indicating it did not appear that EPA would make a decision on the NPL status of the NTS in the near future. DOE has published the *NTS Site Treatment Plan* and *Federal Facility Compliance Act Consent Order* addressing environmental restoration and waste management on NTS. A mutual consent agreement between the State of Nevada and DOE, updated in June 1995, permits NTS to use the available capacity of the TRU Waste Storage Pad for the storage of onsite generated mixed waste that does not meet RCRA land disposal provisions.

The DOE Nevada Operations Office completed a waste minimization plan for NTS in 1991 and created an organization whose mission is to promote waste minimization and pollution prevention and to ensure compliance with DOE requirements. NTS currently generates waste from ongoing operations and remediation associated with past activities and receives waste from other DOE facilities. NTS manages the following waste categories: TRU, low-level, mixed, hazardous, and nonhazardous. A discussion of the waste management operations associated with each of these categories follows.

Spent Nuclear Fuel. The NTS does not generate or manage spent nuclear fuel.

High-Level Waste. The NTS does not generate or manage HLW.

Transuranic Waste. From 1974 to 1990, 612 m^3 (800 cubic yards [yd^3]) of mixed TRU waste was received from LLNL and is stored on an 8,300-m^2 (89,300-ft^2) asphalt storage pad at Area 5 of NTS (NT REECO 1995a:21). DOE and the State of Nevada signed a Settlement Agreement and NTS received a RCRA Part B Permit in July, 1992, allowing the DOE Nevada Operations Office to retain this inventory of mixed TRU waste subject to an appropriate permitting process. None of these waste packages are WIPP-certified. They will have to be certified before shipment to WIPP depending on decisions made in the ROD associated with the supplemental EIS being prepared for the proposed continued phased development of WIPP for disposal of TRU waste. These wastes have been moved to a 1,995-m^2 (21,470-ft^2) polyvinyl chloride-coated polyester fabric-covered building for storage until WIPP is determined to be a suitable disposal facility pursuant to the requirements of 40 CFR 191 and 40 CFR 268 (NT DOE 1996b:BV-38). If WIPP is suitable, this mixed TRU waste will not have to be treated before disposal. NTS has areas of Pu-contaminated soil for which treatment technology is being developed. This activity may produce additional volumes of TRU or mixed TRU waste.

Low-Level Waste. In eight areas at NTS, LLW has been generated and disposed of, but currently only Areas 3 and 5 are active for disposal. Bulk waste is disposed of in Area 3, and packaged classified and unclassified waste is disposed of in Area 5. Disposal of onsite waste began in 1971, and in 1978 operations expanded to receive wastes generated offsite. In 1995, 15 generators shipped LLW to NTS for disposal. An additional 9 generators are applying or awaiting for approval (NT DOE 1996c:4-48,4-49). As of September 1994, approximately 300,000 m^3 (392,000 yd^3) in Area 3 (NT DOE 1996c:4-33) and, as of December 1993, approximately

Table 3.3.10–1. Waste Management Activities at Nevada Test Site

Category	1993 Generation (m^3)	Treatment Method	Treatment Capacity (m^3/yr)	Storage Method	Storage Capacity (m^3)	Disposal Method	Disposal Capacity (m^3)
Transuranic[a]	None	None	None	Containers on covered asphalt pad	612[b]	None–WIPP or alternate facility in the future	NA
Low-Level							
Liquid	Included in solid	None	None	None	None	None	None[c]
Solid	178[d]	None	None	None	None	Shallow burial and greater confinement	500,000[e]
Mixed Low-Level							
Liquid	None	None	None	Containers on TRU waste storage pad	1,150	None	None
Solid	None	None	None	Containers on TRU waste storage pad.	Same as liquid	Shallow burial	90,626[f]
Hazardous							
Liquid	34.6[g]	None	Planned	RCRA-permitted storage	62[h]	Contracted offsite	NA
Solid	Included in liquid[i]	None	None	RCRA-permitted storage	Included in liquid	Contracted offsite	NA
Nonhazardous (Sanitary)							
Liquid	Included in solid	Septic fields	As required	None	None	Septic fields	As required
Solid	7,170[g]	None	None	None	None	Landfill (onsite)	Expandable as required: as of November 1994, 459,000 m^3 available[j]
Nonhazardous (Other)							
Liquid	Included in sanitary	Septic fields	As required	None	None	Septic fields	As required
Solid	Included in sanitary	None	None	None	None	Landfill (onsite)	Expandable as required

[a] All TRU waste at NTS is considered to be mixed until further characterization is completed.

[b] 612 m^3 TRU (LLNL waste) stored pending WIPP availability. An additional capacity of 528 m^3 is available for mixed LLW storage.

[c] 408 m^3 was previously disposed, but liquid LLW is no longer disposed.

[d] Additional volume of LLW disposed of from on and offsite locations was 18,604 m^3.

[e] Area 3 and 5.

[f] Pit 3, Area 5 RWMS.

[g] Assumes a density factor of 1.0 t/m^3.

[h] Area 5 Hazardous Waste Storage Unit.

[i] Includes 2.5 m^3 TSCA waste.

[j] Disposal capacity is composed of three landfills.

Note: NA=not applicable.

Source: DOE 1995w; NT DOE 1994f; NT DOE 1996b; NT REECO 1994a; NT REECO 1995a; NTS 1993a:4; NTS 1995a:3.

167,400 m^3 (218,900 yd^3) in Area 5 (NT REECO 1994a:12) of LLW have been disposed of. Standard shallow land burial techniques have been employed.

Mixed Low-Level Waste. Disposal of mixed waste received from RFETS has taken place at NTS. Environmental restoration at NTS facilities could generate additional volumes of mixed wastes which will require some form of treatment. Mixed waste generated in the State of Nevada that meets land disposal restrictions of RCRA can be disposed of in the Area 5 Mixed Waste Disposal Unit, Pit 3. [Text deleted.] The Nevada Division of Environmental Protection provides RCRA oversight for NTS. The 1992 revised RCRA Part B Permit application, to include a separate mixed waste storage and disposal unit at NTS, in accordance with the provisions of the *Federal Facility Compliance Act*, has been submitted to the State of Nevada. A mutual consent agreement between the State of Nevada and DOE permits the storage of mixed LLW on the TRU waste storage pads. DOE has published the *NTS Site Treatment Plan* and *Federal Facility Compliance Act Consent Order* that establishes the basis for mixed LLW treatment, storage, and disposal at NTS.

Hazardous Waste. Hazardous wastes result from ongoing operations that utilize solvents, lubricants, fuel, Pb, metals, motor oil, and acids. Hazardous wastes are accumulated at satellite areas, stored at the Area 5 RCRA-permitted hazardous waste storage unit, and shipped offsite by truck using DOT-approved transporters to a commercial RCRA-permitted facility. Additional accumulation areas and new equipment are planned to prevent the possibility of cross contamination with radioactive wastes (creating mixed wastes) in handling these materials. PCB-contaminated waste is accumulated and stored in the Area 6 *Toxic Substances Control Act* (TSCA) Waste Accumulation Unit. Accumulated PCB waste is shipped offsite to a commercial TSCA treatment, storage, and disposal facility. Hazardous waste generation is decreasing as the result of an aggressive waste minimization program and will substantially decrease in the future due to the present moratorium on nuclear testing.

Nonhazardous Waste. Nonhazardous sanitary wastes are expected to be generated at the current rates for several years into the future, then decline assuming the present moratorium on underground weapons testing continues. Liquid nonhazardous wastes are disposed of in septic tanks, sumps, or in ponds; solid wastes are disposed of in landfills at various locations on the site. Recycling of paper, metals, glass, plastics, and cardboard has already resulted in some decreases in waste quantities. Solid waste landfills located in Areas 6, 9, and 23 are in use for the disposal of solid nonhazardous wastes. The Area 6 landfill is a Class III landfill that accepts hydrocarbon-burdened soil and debris. The Area 9 landfill is a Class II landfill as it accepts less than 18 t (20 tons) of solid waste per day. The Area 9 landfill is allowed to receive all types of nonhazardous solid waste, excluding radioactive waste, free liquids, and asbestos. Its current capacity is approximately 990,000 m^3 (1.3 million yd^3). Due to changes in State regulatory requirements, the Area 9 landfill will undergo partial closure and reopen as a Class III construction and demolition landfill. The Area 23 landfill receives all types of nonhazardous solid waste with nonpathogenic hospital waste, dead animals, and asbestos-containing materials being buried in separate cells that are identified by concrete markers. The current capacity is approximately 450,000 m^3 (589,000 yd^3). The Area 23 landfill is scheduled to remain in operation as a Class II landfill after modification to comply with the new State regulations (NT DOE 1996c:4-37).